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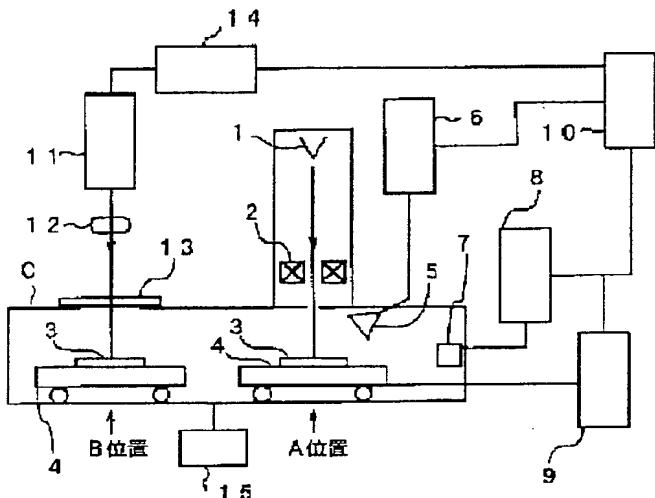
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APPLICANT : NIKON CORP;

INVENTOR : KAWADA SHINTARO;

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TITLE : LASER CLEANING DEVICE



**ABSTRACT :** PROBLEM TO BE SOLVED: To shorten a time necessary to remove a foreign matter and to prevent pulse laser from being irradiated to an unnecessary part by detecting a position of the foreign matter stuck to an article to be washed and irradiating with pulse laser toward the position of the detected foreign matter, in a chamber housing the article to be washed at the time of irradiating with the pulse laser.

SOLUTION: The inside of a chamber C is ventilated with vacuum ventilation system 15, and then the total surface of a wafer 3 is scanned with the electron beam irradiated from an electron gun 1 through an electron lens 2 in such a state that a wafer stage 4 mounted the wafer 3 is set at an A position. At this time the electrons refluxed on the wafer 3 are detected with an electron detector 5 and the output signal is transferred to a dust test control part 10 via an electron beam control part 6, and the position stuck the dust is calculated as coordinate on the wafer 3 and the coordinate is stored in a storing device. After the detection of the dust is completed, the wafer stage 4 is adjusted the position to the direction of a B position and then the pulse laser is irradiated to the position of the detected dust from a KrF exima-laser 11 to remove the dust.

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